

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:
ALFRED W. ZAHER
WOODCOCK WASHBURN LLP
ONE LIBERTY PLACE- 46TH FLOOR
PHILADELPHIA, PA 19103

Date of mailing
(day/month/year)

31 OCT 2005

Applicant's or agent's file reference

SDG-0003

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/US04/41264

International filing date (day/month/year)

08 December 2004 (08.12.2004)

Priority date (day/month/year)

09 December 2003 (09.12.2003)

International Patent Classification (IPC) or both national classification and IPC

IPC(7): B01D 15/00 and US Cl.: 210/660, 663, 748

Applicant

SEPARATION DESIGN GROUP, LLC

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1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
Facsimile No. (703) 305-3230

Date of completion of this opinion

29 September 2005 (29.09.2005)

Authorized officer

Chester T. Barry

Telephone No. 703 305-3230

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US04/41264

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of:

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
- ☐ table(s) related to the sequence listing

b. format of material

- ☐ on paper
- ☐ in electronic form

c. time of filing/furnishing

- ☐ contained in the international application as filed.
- ☐ filed together with the international application in electronic form.
- ☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

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PCT/US04/41264

Box No. V Reasoned statement under Rule 43 *bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)

Claims 1-409 YES
Claims NONE NO

Inventive step (IS)

Claims 1-409 YES
Claims NONE NO

Industrial applicability (IA)

Claims 1-409 YES
Claims NONE NO

2. Citations and explanations:

US 5,085,780 to OSTREICHER describes the use of cationic charge modified filter media to trap contaminants on a filter.

Claims 1 - 164 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest sorbing contaminants from a fluid mixture including the step of electrokinetically biasing fluid contaminants in a direction other than the vector of the fluid mixture.

Claims 165 - 409 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest a sorption apparatus comprising an electrokinetic biaser.

Claims 1 - 409 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

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Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the questions whether the claims are fully supported by the description, are made:

Claims 179 - 337 are objected to under PCT Rule 66.2(a)(v) as lacking clarity under PCT Article 6 because claims 179, 180, 184, 186, 191, 195-197, 201, 205, 214, 222, 225, 231, 233, 237, 239-246, 249-250, 269, 275, 280-283, 285-287, 289, 293, 297, 298, 303-306, 309, 314-321, 323-328, 337 are indefinite for the following reason(s): Each such claim states that it is directed to a sorption device, but refers back to and appears to include all the limitations of claim 163 which is directed to a method, not a device.

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